

## **SECTION 01010**

### **SUMMARY OF WORK**

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**SECTION 01010**  
**SUMMARY OF WORK**

**PART 1      GENERAL**

**1.1 SCOPE OF WORK**

The work covered under this specification includes replacing the TASKER 500 RVR with a Teledyne RVR for RW 13/31 at McNary Field in Salem, Oregon. Remove and demolish the existing Tasker, including all steel, concrete and wires. Demolition is elaborated in the following sections.

The contractor is required to furnish all labor, materials (except Government furnished), services, equipment, insurance, bonds, security notifications, licenses, permits, and fees in accordance with applicable federal, state and local regulatory requirements to complete the specified work. Any miscellaneous labor, equipment and/or materials not specifically detailed or specified, but required to complete the project, shall be provided as an integral part of the work.

The dimensions, measurements, and quantity of materials listed in this specification and on the construction drawings are estimated and are presented to give the contractor an idea of the total scope of work. The contractor is strongly encouraged to make a site visit to verify the existing conditions, quantities of materials, and amount of work required. The contractor is responsible for assuring that the bid reflects all work required to accomplish this project. Coordinate site visit with the FAA Project Engineer, Kelina Wong, (425) 591-8165.

The following items are a brief summary of the project and are provided solely for the purpose of revealing the general nature of the work involved. The Contractor is responsible for accomplishing all items of work in accordance with the applicable drawings, specifications and provisions of the contract. Any additional labor, materials, equipment, and/or appurtenances not specifically detailed or specified, but required to complete the project, shall be provided by the Contractor as an integral part of the scope of work specified.

**1.1.1 Installation and demolition of the RVR**

Contractor shall install the RVR as indicated on the construction drawings, and per manufacture instruction guidelines. RVR is to be located northeast of the existing GS antenna/GS building. Work includes: Construction of the RVR concrete foundation, GS/RVR power rack, associated grounding/bonding and installation of the RVR MG-20 mast.

Contractor shall remove old existing wooden meter base and disconnect. Replace with new Power and Control Unit (PCU) that contains a new meter base and new GS disconnect, Double Throw Switch, EG Disconnect Switch, SPD for GS Disconnect Switch, and a RVR Disconnect

Switch. Contractor shall install the RVR VS power and control unit as indicated on the construction drawings. Grounding and bonding shall be constructed as per FAA-STD-19E. Contractor is to locate all utilities before construction.

Demolition of the old Tasker RVR to take place after the new Teledyne RVR is installed and in service. Contractor to coordinate with PGE as necessary to perform an “in service change out”. If an outage is necessary, contractor shall coordinate with the Project Engineer/Resident Engineer and SSC. If an outage of the RVR is necessary, for more than 24 hours, a 30 day notice is required. For an outage of 8 hrs or less, a 24 hr notice is required. Demolition work includes removal of the old Tasker and associated power and control unit, including all structural steel members and concrete hauled to the recycle bin at public works or as per Airport Manager Direction. RVR DEB cable to be removed by contractor to the greatest extent possible, then cable can be cut; place a cable marker showing the direction of unused abandoned cables (as per airport manager). Holes and trenches from demolition need to be backfilled with suitable fill and compacted to 90% of maximum dry density AASHTO T-99. See section 3.4.4.1. Place 4” of top soil and compact before seeding with range grass.

#### **1.1.4 Installation of Power and Control for the RVR**

##### **1.0 General requirements**

1.1 1.1 Scope – The contractor shall furnish all labor, equipment and materials, except GFM/GFE, required to complete the project as shown on the Contract Drawings and described within this specification. The major work items for this project are as follows:

1. Remove and dispose existing 4”x4” support wooden pole for service KWH meter at GS power rack.
2. Remove and dispose existing 3.5”x3.5” wooden barrier post.
3. Remove and abandon existing underground GS .
4. Remove and abandon existing underground RVR branch circuit at the demolition phase.
5. Remove and dispose existing RVR tower at the demolition phase.
6. Provide new GS power rack including KHW cabinet, meter base, service power breaker, power steel rack, manual transfer switch, disconnect switches, surge protective devices, Engine-generator receptacle, conductors, conduits, J-box, and associated equipment and materials as shown on electrical one line diagram.
7. Provide new RVR rack including power panel and circuit breakers, surge protective device, GFI outlet & waterproof cover box, obstruction lights, J-box, and associated equipment and materials as shown on electrical one line diagram and electrical drawing.
8. Provide new materials to install the RVR system (VS SIE).
9. Provide concrete encased GRS barrier poles to protect the new GS rack and RVR rack.

10. Provide 10 KW 120V/240V portable engine-generators (EG) unit to feed the existing GS and RVR facilities during the construction phase. Provide all temporary services required for construction, such as conductors, conduits, J-boxes, connectors, fuses, diesel fuel, and associated materials to provide continuous electrical power for the existing GS power panel at the GS shelter.
11. Coordinate with the commercial power company (Portland General Electric or PGE) for replacement of GS power rack, KWH meter cabinet, and power outage.
12. The contractor shall provide 10 KW 120v/240V portable generator including power cable, fuel and associated materials to feed facility during power outage phases. Estimate about 10 hours to 12 hours power outages during the installation.
13. The contractor shall coordinate with PEG (commercial power company) for power outage to replacement power rack & new KWH meter. The contractor shall pay PEG for all power service including power outage request.
14. All facility entrance conduits (RSC) shall be bonded to the EES with a bare copper stranded conductor, #2 AWG minimum.
15. Provide "Tightening Torques" is required per Article 110.14 NEC 2008 or per a vendor recommendations . Candidate to be wrench torque including EG receptacle, breakers, main breakers, disconnect switch, power panels, bus bars. Record and submit the results of wrench torques.

Contractor shall install the power and control for the RVR as indicated on the construction drawings. Utility locates are required around the GS site and hand digging is required because there are main transformer power runs through out this area. Contractor shall coordinate with PGE (Portland General Electric) to run a temporary generator while construction is in progress. Plan is to perform an in service change out. Please see electrical drawings for more details on wire sizes etc. Install 12"x12"x6" deep NEMA 3R J-box hinged cover on GS building interior wall with #2 AWG and connect to existing counterpoise and cad weld.

### **1.1.5 General Site Work**

Contractor shall perform the general site work as indicated on construction drawings. Work includes: Installation of the fabric, road base and rock around the RVR, P/C station and RVR tilt down pole maintenance area.

## **1.2 REFERENCES**

Airport Ground Vehicle Operations Guide  
available from: [http://www.asy.faa.gov/safety\\_products/airportground/AGVO-guide.doc](http://www.asy.faa.gov/safety_products/airportground/AGVO-guide.doc)

## **1.3 DRAWINGS**

Callouts on the construction drawings indicate work to be done under this contract unless specifically noted "installed by others" or "existing". Callouts indicating work to be done do not always include the word "install".

### **1.3.1 Construction Drawings Provided**

Drawings applicable to this project are listed below. The written scale (e.g. 1"=100') is only valid for FAA "D - size" drawings (22"x34") and may be slightly off due to variations in printing. On reduced size drawings, the bar scales (where shown) and written dimensions remain valid.

### **1.3.2 As-Built Drawings**

The contractor shall provide three complete sets of As-Built drawings to the FAA Project Engineer at the end of the project. The following color codes shall be used:

- Green -to indicated new or changed information
- Red -to indicated deletions
- Blue - to indicate notes to the draftsman

Any additional diagrams and/or schematics that would be helpful for the maintenance of the facility should also be included.

## **1.4 SUBMITTALS**

### **1.4.1 Material**

The contractor shall submit for approval; catalog data, cut-sheets, samples, and any other relevant information on the contractor furnished material to be used on this project. Two copies of the submittal package shall be given to the FAA Project Engineer for approval. Submittals on materials shall include, but is not limited to:

- Coated galvanized rigid steel conduit.
- PVC conduit
- Cement concrete material.
- Geotextile fabric.
- Aggregate material.
- Contractor furnished hardware.
- Contractor furnished electrical fittings and components.
- Contractor furnished cable and wire.
- Labels.
- Anti-rust product for threaded hardware
- Additional items deemed necessary by the Project Engineer.
- Pull Box's

The contractor shall provide submittals for review for the following electrical items:

A. Power panels	Product data sheet.
B. Disconnect switches	Product data sheet.
C. Fuses	Product data sheet
C. Time current curves of fuses	Product data sheet.
D. Conduits & fittings	Product data sheet.
E. Power conductors	Product data sheet.

#### 1.4.2 Schedule

Prior to start, the contractor shall submit a schedule and work plan to the Project Engineer for approval. See section 3.1.2 for the maximum time allowed to complete this project. The schedule shall show start dates, duration, and finish dates for each work activity. Activities shall include, but are not limited to:

- Site layout.
- Installation of RVR/PCU foundations.
- Installation of power and control for the RVR.
- Installation of the incoming power service for the RVR.
- Site work.
- Gravel Walkway
- Inspection and cleanup.

The FAA reserves the right to modify the contractor's sequence of activities in the interest of facility operation and airport safety.

#### 1.4.3 Schedule of Values

The contractor's proposal shall include a schedule of values, showing at a minimum, a breakdown of cost for each work activity listed in the work schedule / below. Cost for each item should include any profit and overhead.

• Site layout.	<u>\$ . _____.</u>
• Installation of RVR foundation.	<u>\$ . _____.</u>
• Installation of the RVR meter station foundation.	<u>\$ . _____.</u>
• Installation of power and control for the RVR.	<u>\$ . _____.</u>
• Installation of the incoming power service for the RVR.	<u>\$ . _____.</u>
• Site work.	<u>\$ . _____.</u>
• Inspection and cleanup.	<u>\$ . _____.</u>
<b>TOTAL PROJECT COST</b>	<u><b>\$ . _____.</b></u>

#### 1.4.4 Safety Plan

The contractor shall submit a safety plan per paragraph 3.4.2.6 of this section.

### **1.4.5 Work Plan**

The contractor shall submit a work plan per paragraph 3.4.5 of this section.

### **1.4.6 Testing**

The contractor shall complete, at his own expense, all testing as required by these specifications. The results shall be submitted to the FAA Project Engineer. Required testing includes, but is not limited to, the following:

- Cable insulation resistance test (see FAA-C-1217f, 5.3.4)
- Earth resistance test (see FAA-C-1217f, 5.3.6)
- All Required Concrete Testing (performed by an independent testing company).
- Soil Compaction Testing (performed by an independent testing company).

## **PART 2 PRODUCTS**

Reference herein or in the construction drawings to any specific commercial product, process, or service, any trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the Federal Aviation Administration. The contractor may submit a request for substitution of a product, process, or service specifically called out. Such request shall be through the submittal process.

### **2.1 GOVERNMENT FURNISHED MATERIAL**

#### **- (1ea) Runway Visual Range Touchdown Teledyne.**

- MG-20 Anchor Bolt Set Jaquith #L5002

-Anchor Plate Jaquith #L5004

-MG-20 Mounting Stand with 2 7/8" diameter CTR hole Jaquith #L2763X

-20' "A" Tube Jaquith #L9135

-Tube Cap Assembly Jaquith #L7557

-Tilt device Jaquith #L5005

-Vertical Maintenance STD Jaquith #L5016

-Epoxy Jaquith #L5008



### **2.1.1 Inventory and Inspection of GFM**

The contractor shall sign a copy of the Government furnished material (GFM) list acknowledging receipt of the furnished material, noting any discrepancies if necessary. When the contractor signs for custody, he acknowledges receipt in good condition and assumes responsibility for any subsequent loss or damage. The contractor shall return all GFM that is not installed to the location where the material was picked up.

## **2.2 CONTRACTOR FURNISHED MATERIAL**

The contractor shall furnish all material that is required and not otherwise indicated to be Government furnished. Materials furnished by the contractor shall be new, the standard products of manufacturers regularly engaged in the production of such materials, and of the manufacturer's latest designs that comply with the specification requirements.

The contractor is responsible for making their own arrangements for material delivery and receiving. The contractor shall not have any material delivered to any FAA offices. Delivery to the Airport address shall only be done with the prior approval of the airport management.

The list of contractor furnished material includes, but is not limited to:

- Dual Obstruction Light L-810
- Concrete, re-bar, anchor bolts, cable markers, etc.
- Power, control, and grounding cable, as required.
- Ground rods, #1/0 bare copper guard wire, exothermic welds and misc. hardware for grounding system.
- 2" Frangible Couplings compression type.
- Geotextile fabric, as required.
- Aggregate material / Rotomill, as required.
- Coated galvanized rigid metal conduit, EMT, and PVC conduit as required.
- Electrical fittings and components, as required.
- Misc. hardware and Unistrut, as required.
- Labels for electrical components, cables, pull boxes, etc.

- Floor flanges, as required.
- 100 Amp Disconnect (fused at 30 amps) for service side
- 20amp breaker in the Airport Lighting Shelter
- Spare parts Enclosure box - for RVR
- Meter base, double throw switch, GS/EG/RVR disconnect switch, SPE for GS and EG recept .
- (10ea) Concrete encased GRS guard posts
- EG rental, temporary power, fuel etc. Contractor to coordinate with PGE.

## **2.3 MATERIAL**

### **2.3.1 External Hardware**

All external hardware shall be hot dipped galvanized, stainless steel, or approved for long term outdoor use. All cut edges shall be filed smooth and treated with a cold galvanizing compound.

### **2.3.2 Galvanized Rigid Metal Conduit (GRMC)**

All galvanized rigid metal conduit (GRMC) installed below slab, on grade, or underground shall be coated. GRMC shall conform to Steel Structures Painting Council Standard, SSPC-PS 10.01), or be field wrapped with 0.01 inch thick pipe wrapping plastic tape applied with 50% overlap. Fittings used underground shall be protected by field wrapping as specified herein for conduit.

### **2.3.3 Anti-oxidant compound**

Use an anti-oxidant compound on all external threads, insertions, and connections.

### **2.3.4 Asbestos Free Material**

The Contractor shall not use any asbestos containing material (ACM) at any time during the construction. The Contractor shall verify that all material, including those supplied by third parties, are asbestos free materials. A written certification letter shall be provided by the Contractor to the FAA certifying that the finished work is asbestos free.

## **PART 3 EXECUTION**

### **3.1 SCHEDULES**

### **3.1.1 Work schedule**

All work hours shall be coordinated with the Project Engineer. Project engineer is to coordinate with Airports to determine hours of work. No work shall be scheduled on Saturdays, Sundays or legal holidays without prior approval from the FAA Project Engineer.

If a GS outage is required, then work is to be conducted on a VFR day. An in service change out is required; therefore install the new Teledyne RVR before demolishing the existing Tasker RVR.

The contractor shall furnish the Resident Engineer with emergency (24 hour) contact phone numbers for the contractor's superintendent and an alternate individual. Such numbers will be used if the contractor needs to be contacted outside of normal working hours.

### **3.1.2 Construction Schedule**

All work shall be completed within 20 business days after the Notice to Proceed (NTP).

### **3.1.3 Weekly Look Ahead Work Schedule**

On a weekly basis, the contractor shall submit a schedule showing activities desired to be performed during the upcoming week. These work activities shall be approved by the FAA Project Engineer.

### **3.1.4 Deviation from Work Schedule**

The Airport Manager and the FAA Project Engineer reserve the right to suspend or stop construction as necessary for the safety of aircraft or airport property. In addition, the FAA may adjust the work hours to satisfy the facility operations.

### **3.1.5 Daily Construction Log**

The Contractor shall keep a Daily Construction Log. At a minimum, the daily log shall contain:

- Items accomplished for that day.
- Start and stop time of work.
- Name of workers (including sub-contractors), and hours they worked for that day.
- Weather (including sky, ground moisture conditions, and temperature).
- Material received.
- Documents and photographs showing the progress of work, and as required.

The Daily Construction Logs shall be turned over to the FAA Project Engineer on a weekly basis.

## **3.2 PRE-CONSTRUCTION MEETING**

Prior to the start of any work and the contractor's access to the work site, the contractor shall be required to attend a pre-construction meeting. Attendees at the meeting may include, but is not limited to, the FAA Project Engineer, Resident Engineer, FAA Contracting Officer, the Airport Manager, Airport Operations, FAA maintenance, and other interested parties as determined by the Project Engineer. Topics at the meeting will include: site access, airport security, work safety, work schedule, project expectations, work procedures, emergency plans, and other items relating to the execution of the project.

### **3.3 LAYOUT**

The contractor shall verify the field measurements and coordinates indicated on the drawings with the FAA Project Engineer before starting any layout. The contractor shall lay out his work from base lines and bench marks indicated on the drawings and shall be responsible for all measurements in connection therewith. The contractor shall furnish, at his own expense, all stakes, templates, platforms, equipment, tools, materials and labor as may be required in laying out any part of the work. All layout work shall be accomplished by a Professional Land Surveyor. The contractor is to properly maintain the specified layouts to assure proper alignment of the construction. Roads indicated to be installed under this contract shall be laid out and clearly marked at the beginning of the project and used as access roads during construction so as to minimize the disturbance to the surrounding areas.

### **3.4 SPECIAL REQUIREMENTS**

#### **3.4.1 Special Precautions**

The contractor shall conform to the rules and regulations of the airport and shall coordinate all work with the FAA Project Engineer.

Note: Unscheduled interruptions of the electrical service to FAA facilities may cause aircraft accidents and loss of life. Work requiring a temporary or permanent de-energization of equipment shall be scheduled in writing with the FAA Project Engineer and the onsite FAA maintenance personnel. Only onsite FAA maintenance personnel are authorized to energize/de-energize equipment, or to operate a circuit breaker, switch, or fuse in an FAA facility.

#### **3.4.2 Safety Requirements**

Aviation Safety is a primary consideration during airport construction. The Contractor is completely responsible for complying with the Airport's safety and operation procedures, as dictated by the Airport.

During the performance of this contract, the airport runways, taxiways, and aircraft parking aprons shall remain in use by aircraft to the maximum extent possible, **CONSISTENT WITH CONTINUAL SAFETY**. The contractor shall not allow employees, subcontractors, suppliers, or

any other unauthorized person to enter or remain in any airport area which would be hazardous to persons or to aircraft operations.

#### **3.4.2.1 Runway Safety and Object Free Areas**

The Runway Safety Area (RSA) width for runway 31 at the McNary Field in Salem, Oregon is 500'.

Prior to commencement of work, the contractor shall delineate the boundaries of the safety area with 3/8" x 1 1/2" x 4' long pointed lath (survey sticks) and bright orange flagging.

The contractor shall not be allowed into the Runway Safety Area without prior approval from the Air Traffic with ADO restrictions. In general, no workers or equipment shall be allowed inside the safety area when aircraft are using the runway. Work to be done inside the safety area shall be scheduled and closely coordinated by FAA Project Engineer with Air Traffic with ADO restrictions. Please refer to the RMP that was approved by the multidisciplinary team.

In addition to the restrictions of working in the Runway Safety area and Object Free Area, the Airport Manager and/or the FAA Project Engineer may impose more restrictive requirements as needed to maintain airport safety.

#### **3.4.2.2 Approach Surface**

No vehicles or equipment shall be permitted to penetrate an approach surface (extended along the runway centerline) of 20:1 for visual runways, 34:1 for runways with a non-precision approach, or 50:1 for runways with an operational ILS. The approach surface begins at the runway threshold centerline elevation and starts 200 ft downwind from the threshold (or from the location of the Displaced/Relocated threshold).

#### **3.4.2.3 Construction Vehicle Traffic**

The contractors' vehicles and equipment shall enter the work site and construction areas at approved locations, and by way of authorized routes. The use of runways, aprons, taxiways, ramps, will not be permitted unless specifically approved by the FAA Project Engineer and the Airport Manager. The contractor shall inform all personnel that aircraft have the right-of-way at all times. The contractor shall be responsible for maintaining control and security at each entry point, as approved.

As a minimum, all vehicles and motorized equipment that enter the Airport Operations Area (AOA) shall be marked per AC 150/5210-5B (or latest version). In general, all vehicles and motorized equipment inside the AOA shall be marked with a three foot by three foot flag with international orange and white 12 inch squares displayed in full view above the vehicles. At night, or during periods of low visibility, all vehicles and equipment operating in the AOA shall be identified with an approved yellow flashing beacon.

In addition, no personnel will be permitted to drive on the airside of the airport unless he/she has read, and certified that he/she has read, “ A Guide to Ground Vehicle Operations on an Airport” (DOT/FAA/AS-90-3). Personnel shall comply with the airports regulations on access on the AOA and possibly obtaining a drivers permit.

THE AIRPORT AND/OR THE FAA MAY HAVE ADDITIONAL REQUIREMENTS FOR VEHICLES, EQUIPMENT, AND PERSONNEL OPERATING INSIDE THE AOA.

#### **3.4.2.4 Unauthorized Structures**

The contractor shall install no fences or other physical obstructions on or around the project work area without the approval of FAA Project Engineer and Airport Operations.

#### **3.4.2.5 Hazard Marking**

The contractor shall use barricades, flashers, flags, traffic cones, signs, etc., for the following:

- To prevent aircraft from taxiing onto a closed runway, taxiway or apron.
- To outline construction/maintenance areas.
- To identify isolated hazard areas such as open manholes, ditches, potholes, waste areas, etc.
- To identify FAA and Airport facilities, cables, power lines, ILS Critical areas, and other sensitive areas, in order to prevent damage, interference and facility shutdown.

All hazard markings shall be furnished and setup by the contractor. Barricades inside the runway safety area shall be lightweight and frangible. For daytime use, barricades should be supplemented by flags; for night time use, they shall have flashing yellow lights. Night time barricades shall not penetrate the approach surface. All markings shall be to the approval of the FAA Project Engineer.

#### **3.4.2.6 Safety Plan**

Prior to commencement of work, the contractor shall submit a safety plan for approval by the Project Engineer. An acceptable safety plan shall take into account areas discussed in Appendix 1 of AC 150/5370-2C and the Airport’s rules for construction activity at the Airport.

#### **3.4.3 Radio Communications**

The contractor's superintendent (or someone appointed by the superintendent) shall be required to monitor a transceiver radio at all times when the contractor is operating inside the runway safety area. The transceiver shall be contractor furnished with a frequency range of 118-136 Mhz and tuned to the local ATCT Tower or Ground Control (CTAF when tower is closed) frequency,

UNICOM frequency, or as required. Such radios shall be used so that any unusual occurrence of approaching, departing, taxiing aircraft can be acknowledged by all concerned parties. The contractor's use of the transceiver radio is basically for listening purposes, transmitting should be in emergencies only.

#### **3.4.4 Work Limitations**

The contractor's activities shall be planned and scheduled to minimize disruption of normal aircraft activities. If the clearances and restrictions described in this section cannot be maintained while construction is underway (for example, when performing work that is required inside the runway safety area), action shall be taken to close runways (or taxiways, or aprons), displace/relocate the runway threshold temporarily (see 3.4.4.2), and/or to perform work at night or during periods of minimal aircraft activity, as approved.

##### **3.4.4.1 Trenches, Holes, and Excavations**

Trenches, holes, and any other type of excavation within the runway safety area are not allowed without either closing the runway or adequately displacing/relocating the runway threshold to accommodate the work. If a runway closure or displacement/relocation of the runway threshold becomes necessary, the contractor shall submit a detailed plan which must be approved by the Airport and the FAA.

If contractor plans to leave holes, trenches, or excavations open, contractor shall coordinate with the Resident Engineer and Airport Operations to comply with Airports regulations.

#### **3.4.5 Work Plan**

Prior to commencement of work, the contractor shall submit a work plan for approval by the Project Engineer (see 1.4). An acceptable work plan shall take into account all areas discussed in this section.

### **3.5 PROTECTION OF EXISTING UTILITIES AND CABLES**

The existing utility lines, utility structures and all underground cables, as may be shown on the drawings are approximate and incomplete. Where excavation occurs in the vicinity of existing utilities or cables, the contractor shall use whatever means necessary, including a private cable locator, to locate the existing utilities or cables prior to any excavation. The contractor shall stake all utility or cable crossings and such areas shall be hand excavated. The contractor shall immediately repair any damage done by the contractor or suppliers to utilities or cable within the work area. When an unexpected outage occurs, contact the POCC at 858-831-7522.

### **3.6 INSTALLATION AND WORKMANSHIP**

All work shall be performed according to the intent of the contract, and normal and accepted industry and Government standards.

All work shall be accomplished by skilled workers regularly engaged in this type of work. Where required by local regulations, the workers shall be properly licensed. Electrical terminations and splices shall be done by a qualified electrician.

The contractor shall give constant attention to the work to facilitate the progress thereof, and shall cooperate with the Project/Resident Engineer in every way possible. The contractor shall have a competent superintendent on the work site at all times who is fully capable of reading and thoroughly understanding the plans and specifications and shall receive and fulfill instructions from the Project/Resident Engineer.

An initial inspection shall be conducted when a representative sample of work has been completed. This work shall be approved by the FAA Project Engineer or his representative, prior to the commencement of additional work.

All conduits shall be completely cleaned prior to installing cable. A flexible mandrel shall be used to clean out mud, dirt, and debris from the raceways.

Underground conduits shall be installed so that no water can be trapped in the raceway (water must be able to drain out of one end).

All foundations, manholes, vaults, pull boxes, equipment racks, buildings, roads, retaining walls and other above ground structures shall be installed square (perpendicular and parallel) to the runway centerline, prevailing structure or road as indicated on the drawings unless specifically indicated to be otherwise. Elevated conduits and structures (those extending above grade) shall be installed level and plumb. Unless otherwise indicated, maximum tolerance for vertical plumbness is  $\frac{1}{8}$ " horizontal for every four feet vertical. Exposed raceways shall be installed parallel to or at right angles with the lines of the finished structure, unless otherwise indicated.

Tops of foundations, cans, pull boxes, manholes, vaults, etc., shall be uniform with the tops of concrete at the surrounding structures, natural grade or as indicated on the drawings or as directed by the Project Engineer. Unless otherwise indicated, top of foundations, cans, pull boxes, manholes, etc. shall be level with a maximum tolerance of  $\frac{1}{16}$ " per foot.

Road curves shall be as indicated on the drawings or as indicated by the Project Engineer. Edges of roads, walkways and graveled areas shall be clean, sharp, and well defined. Installed surface material shall not be allowed to spill outside the defined edges.

Installed foundations, structures, walkways, and roads not meeting the above requirements shall be removed, disposed of, and re-installed correctly at the contractor's expense.

### **3.7 TEMPORARY FACILITIES**

The contractor shall provide and pay for all temporary services and facilities as specified below and as necessary for the proper and expeditious execution of the work. The contractor shall



make, or have made, all connections to existing services and sources of supply as necessary and/or indicated and pay all charges for same. All work under this Section shall comply with applicable laws, rules, regulations, codes, ordinances, and orders of all Federal, State, and Local authorities having jurisdiction for the safety of persons, materials and property. The contractor shall remove all such temporary installations and connections when no longer necessary for the project work.

### **3.7.1 Temporary Water**

The contractor shall make arrangements to furnish a potable water supply for workers and project work, and pay for all water and services.

### **3.7.2 Temporary Toilets and Sanitation**

The contractor shall provide ample and suitable on site sanitary conveniences with proper enclosures for the use by the workers, FAA personnel, and FAA support personnel. Such conveniences shall be kept clean, properly ventilated and installed and maintained in conformity with requirements of all laws and ordinances governing such installations. Locations shall be subject to the FAA Project Engineer's approval. After completion of the work such conveniences shall be removed from the site.

## **3.8 SECURITY REQUIREMENTS**

The contractor shall comply with all security requirements established by the Airport. Only direct construction support personnel, vehicles and/or equipment will be allowed to the construction site.

During construction operations, the contractor shall use only the access gates and haul roads that are designated by the FAA Project Engineer. The contractor shall be required to keep access gates guarded and closed during construction hours. The gate may be opened only for authorized vehicle traffic flow. At such times as this gate is not guarded, it shall be closed and securely locked. The contractor shall be held duly responsible to uphold the above security stipulations at all times during the progress of the construction project. No deviations from these security measures shall be allowed at any time.

## **3.9 SAFETY**

All work shall be accomplished in accordance with OSHA Regulations (Standards – 29 CFR), Part 1926, Safety and Health Regulations for Construction.

Protective Equipment, including personal protective equipment for eyes, face, head, and protective clothing shall be used wherever it is necessary by reasons of hazards or environment [1926.95].

- Head protective equipment (helmets) shall be worn in areas where there is a possible danger of head injuries from impact, flying or falling objects, or electrical shock and burns [1926.100].
- Eye and face protection equipment shall be worn when machines or operations present potential eye or face injury [1926.102].

Specific work and operations requiring the mandatory use of personnel protective equipment shall be determined by the FAA Project Engineer.

### **3.10 SEDIMENTATION, EROSION, AND DUST CONTROL**

The Contractor shall submit a plan for sedimentation, erosion, and dust control. The plan shall show best management practices such as the use of silt fencing and/or hay bales to filter sediments from runoff and the application of water as needed to control dust.

### **3.11 DEBRIS CONTROL AND CLEAN-UP**

The work site shall be kept clean and orderly during the progress of work. Special attention shall be exercised to prevent the production of FOD (foreign object debris) which could cause damage to aircraft and/or airport equipment. Prior to the Contract Final Inspection, the contractor shall clean all areas of the construction site. This shall include but is not limited to the dress-up, sweep-up, and re-seeding of all areas disturbed during construction. A NEAT FINAL APPEARANCE OF THE INSTALLED FACILITIES (INTERIOR AND EXTERNAL) SHALL BE EMPHASIZED! All clean-up work shall be to the approval of the FAA Project Engineer.

Upon completion of work, the contractor shall be required to obtain a letter from the Airport Manager indicating that the work area has been left in an acceptable condition. A copy of the letter shall be given to the FAA Project Engineer.

### **3.12 INSPECTION & ACCEPTANCE**

The Contractor shall maintain an adequate inspection system and perform such inspections to ensure that the work performed under the contract conforms to contract requirements. The Contractor shall maintain complete inspection records and make them available to the Government.

**THE PRESENCE OR ABSENCE OF A GOVERNMENT INSPECTOR DOES NOT RELIEVE THE CONTRACTOR FROM ANY CONTRACT REQUIREMENT.**

The Government inspections and tests are for the sole benefit of the Government and do not-

- Relieve the Contractor of responsibility for providing adequate quality control measures;
- Relieve the Contractor of responsibility for damage to or loss of the material before acceptance;

- Constitute or imply acceptance.

The Contractor shall, without charge, replace or correct work found by the Government not to conform to contract requirements. The Contractor shall promptly segregate and remove rejected material from the premises.

END OF SECTION